



**Rocky Mountain
Oil & Gas Association**

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4/7/98

Mr. David S. Guzy
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Minerals Management Service
Royalty Management Program
P.O. Box 25165, Mail Stop 3101
Denver, CO 80225-0165



RE: MMS Supplementary Proposed Rule, Establishing Oil Value for Royalty
Due on Federal Leases ("MMS Second Supplement Notice") (dated
February 6, 1998)

Dear Mr. Guzy:

The Rocky Mountain Oil and Gas Association (RMOGA) welcomes this opportunity to submit comments on MMS' February 6, 1998 notice regarding the establishment of Oil Value for Royalty Due on Federal Leases. RMOGA is a trade association whose members are responsible for approximately 90 percent of the exploration, production, refining, marketing and transportation of oil and gas in the eight-state Rocky Mountain region.

RMOGA and many of its members participated actively in this process from the very beginning, and because of the strong interest of our RMOGA members, we feel compelled to offer the following comments.

The basic problem RMOGA members see with the MMS proposal is the definition dealing with the use of "arm's-length" transactions that dramatically expands the meaning of "affiliate" to severely restrict a large number of bona fide arm's length transactions from the application of gross proceeds for valuation of crude oil production for the purposes of royalty determination.

The members of the RMOGA Finance and Accounting Committee continue to have problems with the current MMS proposal. The issue creating the most discussion is MMS's decision to use different valuation methodologies in different oil and gas producing areas. Several associations, including the American Petroleum Institute, have referred to this MMS strategy as the "three region approach." Our members disagree with the proposal to use Alaska North Slope spot prices for Alaska and California, the

NYMEX futures quotation at Cushing, Oklahoma for the Rocky Mountain Region and spot prices elsewhere.

RMOGA urges MMS to expand the definition of "arm's-length" transaction and to eliminate the "three-region" scenario. RMOGA members favor the revision of the existing regulations established back in 1988 to create realistic benchmarks by eliminating the reference to posted prices, and enough flexibility to truly be able to arrive at the "value of production" at the lease. The new MMS proposal is unsuccessful in simplifying the process and reducing audit nightmares.

Another area of disagreement is in the "duty to market" section of the proposal. RMOGA members view this provision as tilting the playing field even further in favor of the federal government. If one of the objectives of MMS is fairness and equality, then forcing the private sector to bear all of these marketing costs (cachement, transportation, quality differential, location) rewards the federal government and penalizes the interest owner. Basically, this scenario requires that production be marketed at no cost to the lessor. Reasonable deductions for the cost of marketing and value added downstream would be a step in the right direction when attempting to arrive at the "value of production" at or near the lease.

The MMS proposal contains numerous vague and uncertain requirements that should be addressed and corrected. In looking over the API submission, it is clear they have gone into great detail regarding these issues, and RMOGA will not re-plow that ground. We agree with the API analysis.

The only real answer to the questions and problems surrounding the valuation of oil and gas is for the Minerals Management Service to implement a "royalty-in-kind" program. RMOGA has been touting this approach, as have other players in the oil and gas industry. The industry has come together and agreed on a set of six principles that an RIK program can be successfully built upon. People in the Congress are talking about RIK. Unfortunately, MMS is also talking about RIK, but the news articles we read have been far more negative than positive. It is difficult to believe that MMS would not want to take its oil and gas and live under the same rules and regulations as those in the private sector. It is difficult to believe that MMS believes that the private sector can make a profit despite the rules and regulations, but the government would not be able to compete, even using private marketing experts. It is difficult to believe that government officials would lead major news organizations to believe the federal government would lose money by abiding by the same rules as everyone in the private sector.

The oil and gas industries are at a crossroads. This industry has no desire to spend all its time and hundreds of millions of dollars fighting with the federal government over the value of the product. This industry wants to deliver to the federal government its rightful share of the oil and gas produced and get on with the business of finding more energy for the next century. Instead, the current system finds the industry spending time and money on proving that prices of oil and gas five and ten years ago were correct and that payment

was made. The government, on the other hand, employ legions of inspectors and auditors, and the never-ending process continues. It shouldn't be this way, and it wouldn't be this way if an RIK program were adopted.

RIK would give both the government and the private sector the best of both worlds. There would be no argument over the price of the product. Both the private sector and the government (the federal government and the states) would sell it at the best possible price), and the only audit function would be to make certain the proper amount of oil or gas was delivered.

Hopefully, calm heads and cooperation will be the order of the day, and the government and the industry can move forward together and implement a Royalty-In-Kind program that will solve most of these problems, thus eliminating the need for a set of rules and regulations that will be difficult, if not impossible, to adhere to.

Attached for filing please find two separate reports from the Barents Group, L.L.C. The first report is titled **"Analysis of the Department of Interior, Minerals Management Service's Supplementary Proposed Rule Establishing Oil Value for Royalty Due on Federal Leases."** The second report is titled **Analysis of MMS' "Economic Analysis of Proposed Federal Oil Valuation Rule Under Executive Order 12866"**. In an effort to fully participate in this rulemaking process, RMOGA offers these reports as additional substantive comments on the above-referred proposal.

Sincerely,



Clifford F. Dodge
Executive Vice President
Rocky Mountain Oil and Gas Association

cc: Wayne Pachall
RMOGA Finance & Accounting Committee
John Morrison

**ANALYSIS OF MMS' "ECONOMIC ANALYSIS OF
PROPOSED FEDERAL OIL VALUATION RULE
UNDER EXECUTIVE ORDER 12866"**

Prepared by



A KPMG Company
2001 M Street, NW
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April 7, 1998

PREFACE

Barents Group LLC, a wholly owned subsidiary of KPMG Peat Marwick LLP, was retained by a group of companies having significant crude oil production on Federal lands, to assist in analyzing the Department of Interior, Minerals Management Service's (MMS) economic analysis of a proposed rule establishing a new method for valuing oil for royalties due on Federal leases (63 F.R. 6113, published February 6, 1998). These companies are interested in and affected by the MMS proposal.

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EXECUTIVE SUMMARY

Barents Group LLC was retained by Gardere & Wynne, L.L.P. on behalf of a group of companies having significant crude oil production on Federal lands, to assist in analyzing the Department of Interior, Minerals Management Service's (MMS) economic analysis of a proposed rule establishing a new method for valuing oil for royalties due on Federal leases (63 F.R. 6113, published February 6, 1998). These companies are interested in and affected by the MMS proposal.

Under Executive Order 12866, agencies are required to perform a detailed cost-benefit analysis for economically significant rules having an annual impact in excess of \$100 million. While MMS does not consider this further supplementary proposed rule to be economically significant, MMS has performed a cost-benefit analysis and concludes that this proposed rule will result in increased royalties of \$66.1 million when compared with actual 1996 royalty collections. The only cost MMS believes will be incurred is the cost to industry of completing proposed Form MMS-4415 for an annual cost of \$160,912.50.

This report describes the results of our review and analysis of MMS' report. While MMS did not find the rule to be economically significant, we nevertheless consider it appropriate for the Agency to have conducted the analysis.¹ Indeed, in performing this study, MMS has raised issues that deserve further consideration and analysis. While our report discusses certain methodological concerns with the accuracy of MMS' analysis, we consider the report to be especially important in that the underlying data MMS used to support the analysis effectively calls into question some fundamental underpinnings of the proposed rule. In this sense, Executive Order 12866 has performed precisely the role for which it was designed. It allows affected parties to carefully review and comment on the economic case for Agency action. In summary, we find the following:

- ◆ By using index prices in the proposed rule, MMS starts by capturing the value of crude oil in the wrong market. MMS believes that spot prices are a viable indicator of market value. This assumption, by itself, is not necessarily incorrect. Spot prices, however, indicate the value of crude oil downstream of the lease, rather than market value at the lease. Because these are separate markets, no uniform national or even regional series of adjustments can be used to adjust a spot market price to accurately represent market value at the lease. This is a fundamental, conceptual error.
- ◆ MMS' stated intent is to receive market value at the lease,² yet its own data and analysis indicate that the proposed index-pricing methodology will not accomplish the purpose. If the proposed methodology is applied to producers with no refinery capacity, a group that

¹ Barents called upon MMS to prepare such an analysis in a November 5, 1997 report filed by the Rocky Mountain Oil & Gas Association, "Analysis of The Department of Interior, Minerals Management Service Proposed Rule Establishing Oil Value for Royalty Due on Federal Leases and on Sale of Federal Royalty Oil Under Executive Order 12866."

² Transcript of Public Hearing on Minerals Management Service's Supplementary Proposed Rule on Oil Valuation. Page 8.

presumably receives arm's-length market values today, MMS' data show there would be a substantial overstatement of computed values over the reported values. As shown in the following table, independent producers/marketers³ operating in the Gulf of Mexico and Offshore California — the two areas where MMS data allow us to perform such calculations⁴ — would under the proposed rule experience overstatements of \$0.74 per barrel and \$2.45 per barrel, respectively. These are the same companies that MMS assumes will pay royalties based on gross proceeds under the further supplementary proposed rule. If the index-pricing method accurately captured lease value, the calculated values would instead be expected to closely approximate values reported by producers without refinery capacity.

**Potential Overstatement of Value under Proposed Rule
if Applied to Independent Producers**

| | Offshore California | Gulf of Mexico |
|---|------------------------|-------------------|
| Reported value | \$13.78 | \$21.02 |
| Value if rule applied to independent producers/ marketers | <u>16.23</u> | <u>21.76</u> |
| Potential overstatement of value under rule | 2.45 | 0.74 |

- ◆ We have analyzed MMS data for the Gulf of Mexico and offshore California and find that the proposed rule would result in values much higher than market prices (MMS did not provide sufficient onshore data to allow such an analysis due to disclosure requirements). Combined, these two areas represent \$62.2 million, or 94 percent, of MMS' estimated \$66.1 million of increased royalties. Assuming that the value received by producers/marketers with no refinery capacity is a reasonable proxy for lease market value, our analysis shows that, the application of the proposed rule would overstate market values by \$36.0 million, or by \$14.4 million for offshore California and by \$21.6 million for the Gulf of Mexico. While there are numerous reasons why such aggregate comparisons will not be valid, these results indicate that the proposed rule does not result in market value at the lease.

³ These companies include MMS' categories 3 and 5: large independent producers / marketers with no refinery capacity, and small independent producers with no refinery capacity.

⁴ Under a Freedom of Information Act (FOIA) request, Barents received data and spreadsheets MMS used in performing the economic analysis of the proposed rule.

**Comparison of Market-Based Valuation with Valuation under Proposed Rule
for Producers with Refinery Capacity**

| | Offshore California | Gulf of Mexico |
|--|---------------------|----------------|
| Average price received by producers with refinery capacity | \$13.99 | \$20.34 |
| Average price received by independent producers/marketers | <u>13.78</u> | <u>21.02</u> |
| Market-based differential | -0.21 | 0.68 |
| Average price received by producers with refinery capacity | 13.99 | 20.34 |
| MMS-adjusted refiner price under proposed rule | <u>15.45</u> | <u>21.54</u> |
| MMS' differential | 1.46 | 1.20 |
| MMS' overstatement | 1.67 | 0.52 |
| MMS-computed undervaluation | 12,577,567 | 49,609,658 |
| Adjusted undervaluation with market-based calculation | -1,808,224 | 28,246,065 |
| MMS potential overstatement | 14,385,791 | 21,636,593 |

- ◆ MMS has not fully analyzed the proposed alternatives (e.g. tendering programs) and has failed to even consider a proposal with broad industry support that is currently being considered by the Congress: royalty-in-kind.
- ◆ MMS underestimates industry costs by assuming that the only costs incurred are those associated with filing Form MMS-4415, and MMS has likely underestimated even those costs. MMS has also not estimated costs associated with the additional time required to calculate value under the proposed rule, the increased time required to complete other forms (e.g., Form MMS-2014), or the increased recordkeeping burden.
- ◆ As a result of these failings, the proposed rule effectively imposes the economic equivalent of a new tax with random effects that arbitrarily impose a higher burden on some Federal lessees than others. In the long run, this "tax" will reduce lessee investment and potentially Federal revenues, including future bonus payments on newly offered Federal property.

In conclusion, MMS should reevaluate the proposed rule and develop a methodology that is based on market value at the lease. MMS should fully investigate the costs and benefits of all appropriate alternatives, including royalty-in-kind.

1. INTRODUCTION

The Minerals Management Service (MMS) has prepared an economic analysis, as required for economically significant rules under Executive Order 12866, for its further supplementary proposed rule that describes new methodologies for establishing oil value for royalty due on Federal leases published February 6, 1998.⁵ Although MMS has released two prior versions of this proposed rule, this is the first time MMS has prepared an economic analysis of the rule. Indeed, in a previous filing with the MMS and the Office of Management and Budget (OMB), Barents Group noted that it would be appropriate for MMS to perform a more detailed analysis required by E.O. 12866 to determine whether the rule has significant economic effects, defined as an annual impact of \$100 million or more.⁶

MMS concluded that the total impact of the proposed rule, using actual 1996 collections as the baseline, would result in additional revenues of \$66.1 million. Additionally, "MMS and industry would realize administrative savings because of the reduced complexity in royalty determination and payment. Specifically, MMS believes the proposal would result in:

- ◆ Simplification of pricing, coupled with certainty,
- ◆ Reductions in valuation determinations and litigation,
- ◆ Reduction in industry compliance costs, and
- ◆ Receipt of market value of oil reduced from Federal leases."⁷

MMS estimates that the entire source of additional costs of the proposed rule are those associated with completing Form MMS-4415. They estimate the total industry cost to be \$160,912.50, resulting from the 4,597.50 hours required annually to complete the proposed form.

In January 1996, Sally Katzen, then Administrator of OMB's Office of Information and Regulatory Affairs, released a memorandum describing "best practices" for a good economic analysis (the "Katzen memo"). The Katzen memo provides guidelines for the following areas required of an Executive Order 12866 economic analysis: a statement of need for the proposed action, an examination of alternative approaches, and analysis of benefits and costs. An economic analysis should provide information that will allow decision makers to determine that:

- ◆ *There is adequate information indicating the need for and consequences of the proposed action;*
- ◆ *The potential benefits to society justify the potential costs, recognizing that not all benefits and costs can be described in monetary or even in quantitative terms, unless a statute requires another regulatory approach;*

⁵ 63 FR 6113

⁶ Barents called upon MMS to prepare such an analysis in a November 5, 1997 report filed by the Rocky Mountain Oil & Gas Association, "Analysis of The Department of Interior, Minerals Management Service Proposed Rule Establishing Oil Value for Royalty Due on Federal Leases and on Sale of Federal Royalty Oil Under Executive Order 12866."

⁷ "Economic Analysis of Proposed Federal Oil Royalty Valuation Rule Under Executive Order 12866," Page 24.

- ◆ *The proposed action will maximize net benefits to society (including potential economic, environmental, public health and safety, and other advantages; distributional impacts; and equity), unless a statute requires another regulatory approach;*
- ◆ *Where a statute requires a specific regulatory approach, the proposed action will be the most cost-effective, including reliance on performance objectives to the extent feasible;*
- ◆ *Agency decisions are based on the best reasonably obtainable scientific, technical, economic, and other information.⁸*

The full text of the Katzen memo can be found in Appendix 1

Barents Group has been asked to review and analyze MMS' economic analysis. This report outlines the requirements of a good economic analysis, comments on MMS' analysis and assumptions, and discusses whether MMS has fulfilled the E.O. 12866 requirements.

⁸ "Economic Analysis of Federal Regulations Under Executive Order 12866." January 11, 1996. Page 3.

2. MMS' ECONOMIC ANALYSIS

While MMS' economic analysis contains the required elements specified in the Katzen memo, the Agency based many of its assumptions on an incomplete understanding of the crude oil lease market and of cost-benefit analysis.

NEED FOR THE PROPOSED REGULATORY ACTION

In order to establish the need for the proposed action, the analysis should discuss whether the problem constitutes a significant market failure. If the problem does not constitute a market failure, the analysis should provide an alternative demonstration of compelling public need, such as improving governmental processes or addressing distributional concerns... Once a significant market failure has been identified, the analysis should show how adequately the regulatory alternatives to be considered address the specified market failure.⁹

Discussion of MMS' Analysis

MMS states that posted prices form the basis of the current royalty system, but in recent years, posted prices have been increasingly criticized by a number of states as not being representative of the true market value of crude oil. An interagency team was set up by the Department of Interior to review the oil valuation issue in California, and as a result of its investigation, the team recommended that MMS revise its oil valuation regulations to reduce reliance on posted prices.¹⁰

MMS also commissioned a number of consultants who concluded that:

- ◆ Posted prices have not represented market value since at least 1986;
- ◆ Sales prices are often above posted prices and are linked, in some form, to market prices such as spot or futures prices, or represent premia over posted prices;
- ◆ Major producers have few truly outright sales;
- ◆ Most major producers use buy/sell exchanges; and
- ◆ There are regional differences in the domestic crude oil market, particularly on the West Coast and in the Rocky Mountain region owing to differences in market concentration and availability of transportation options.¹¹

Also, MMS states that since the 1980's, the petroleum industry has placed a greater emphasis on spot transactions as a means of buying and selling crude oil and that as integrated companies increasingly found themselves short of refinery feedstock, they became more active in the spot

⁹ "Economic Analysis of Federal Regulations Under Executive Order 12866." January 11, 1996. Page 4-5.

¹⁰ "Economic Analysis of Proposed Federal Oil Royalty Valuation Rule under Executive Order 12866," Page 3.

¹¹ *Ibid.* Pages 3-4.

market. Finally, the wide publication of spot and futures prices by commercial reporting services has contributed to the use of such prices in structuring transactions.

The goal of the proposed rule is to establish royalty valuation methods that "capture the true market value of oil produced from Federal leases."¹² As the market has moved away from posted prices to set market value, so MMS believes the rules must be revised to assure that the Federal government receives market value for its crude oil.

Has MMS Fulfilled the Requirements?

While MMS has described its perceived problem with the current Federal crude oil royalty system (that posted prices do not represent market value), its analysis fails to adequately show how the regulatory alternatives considered address the perceived problem. The analysis has also failed to prove that its chosen option or any alternative would arrive at a lease market value. MMS' stated intent is to receive market value at the lease,¹³ yet in its economic analysis, MMS does not describe the market value to which it believes it is entitled. As we have described in other reports filed with MMS and OMB, MMS' proposed methodology will not result in market value at the lease.¹⁴ Indeed, as we discuss later, MMS' own analysis indicates that its proposed methodology will result in something other than market value at the lease.

Proposed adjustments will not generally result in an accurate measure of market value at the lease.

1. Spot markets generally do not move in lock step with local markets and will not reflect local supply and demand conditions; and
2. No location adjustment is allowed, and so no consideration is given to the difference in value of the crude at the lease and at the disposal point. The difference in value will generally reflect more than just the cost of transportation. The same is true of production moved directly to a market center.

If production is not ultimately sold arm's length and is neither moved directly to an alternative disposal point nor a market center, the lessee may use an MMS-published location quality adjustment based on information to be collected on proposed Form MMS-4415, actual transportation costs between the aggregation point and the lease, and a quality adjustment based on premia or penalties determined by pipeline quality bank specifications at intermediate commingling points, at the aggregation point, or at the market center. These adjustments do not

¹² *Ibid.* Page 1

¹³ Transcript of Public Hearing on Minerals Management Service's Supplementary Proposed Rule on Oil Valuation. Page 8.

¹⁴ See "Analysis of the Department of Interior, Minerals Management Service's Request for Extension of the Existing Collection Authority for Form MMS-2014" filed by Gardere & Wynne, L.L.P. on March 6, 1998, "Analysis of the Department of Interior, Minerals Management Service Proposed Rule Establishing Oil Value for Royalty Due on Federal Leases and on Sales of Federal Royalty Oil," May 28, 1997 as submitted by the Rocky Mountain Oil and Gas Association, and "Analysis of The Department of Interior, Minerals Management Service's Form MMS-4415 Under the Supplementary Proposed Rule Establishing Oil Value for Royalty Due on Federal Leases Under the Paperwork Reduction Act," March 10, 1998 as submitted by Gardere & Wynne, L.L.P. on behalf of a number of oil and gas companies.

result in an accurate measure of market value at the lease. For the latter two adjustments, the problems described above apply. Indeed, no uniform national or even regional series of adjustments will bring a spot price back to the lease price because the spot and lease markets are fundamentally different.

MMS has not considered the appropriateness of non-regulatory alternatives. Indeed, one of MMS' own consultants stated that, "The only way to be absolutely certain that a fair market value is received for royalty oil is to take the oil in kind..."¹⁵ H.R. 3334, the "Royalty Enhancement Act of 1998" has been introduced by Representative Mac Thornberry and others and is currently under congressional consideration. One hearing has already been held on H.R. 3334 and an additional hearing is now scheduled for April 23. A similar bill will likely be introduced shortly in the U.S. Senate.

A properly designed, mandatory royalty-in-kind program would allow the government to obtain a fair market value for production from Federal lands without the administrative burden and inefficiencies or the economic distortions that would be imposed by the further supplementary proposed rule. There is no reason to implement a new crude oil valuation rule that will be burdensome and will distort markets when the entire valuation system may soon change in a manner that would more accurately reflect true values than would the proposed rule.

AN EXAMINATION OF ALTERNATIVE APPROACHES

*The EA should show that the agency has considered the most important alternative approaches to the problem and provide the agency's reasoning for selecting the proposed regulatory action over such alternatives... the agency should nevertheless explore modifications of some or all of a regulation's attributes or provisions to identify appropriate alternatives.*¹⁶

Discussion of MMS' Analysis

In developing its further supplementary proposed rule, MMS requested comments on the following five alternatives:¹⁷

1. Lessee's would value oil not sold at arm's length based on prices they receive for outright sales of crude oil in the same region or area under a bid-out or tendering program;
2. Lessees would use the first applicable of a new series of benchmarks;
3. MMS would establish value for geographic locations using data collected from individual payors;
4. Lessees would use flat rate differentials (cents per barrel or cents per mile transported) to deduct from index price; and
5. Lessees would use spot prices rather than NYMEX as an index price.

¹⁵ "Crude Oil Royalty Payment Analysis, Report to the State Lands Offices of Colorado, New Mexico, and Texas." Summit Resources, Inc., Page 11.

¹⁶ "Economic Analysis of Federal Regulations Under Executive Order 12866." January 11, 1996. Page 7.

¹⁷ 62 FR 49460

MMS rejects the first four alternatives in favor of its selected proposal, the fifth alternative, which, according to MMS, represents "a reasoned, practical solution to establishing royalty valuation methods that capture the true market value of crude oil produced from Federal leases. The other alternatives were deemed less desirable and more costly to implement than the proposed rule."¹⁸ MMS, however, presents no evidence that any of these alternatives would be more costly or less desirable than its proposal. Indeed, some of the reasons MMS cites for rejecting the first four alternatives merely represent a misunderstanding of the crude oil market.

MMS' claims that the first alternative, a tendering or bid out program, would "require extensive monitoring and would add a significant audit burden to both MMS and industry. It's application is only useful where the lessee's production otherwise may not be sold at arm's length and there is no nearby, independent measure of the market value such as index."¹⁹ This is incorrect. Prices received under a tendering program are a reliable measure of market value at or near the lease and represent a market price for crude oil at the lease. Prices received in the open market are the best indicator of value.

MMS has chosen to include a tendering program in the Rocky Mountain Area because "no published, reliable indicators of market value are readily available."²⁰ We agree that a tendering program is a useful measure of lease market value in the Rockies but see no reason to limit its application to that area.

MMS rejected the second alternative, a benchmark system, as unworkable when applied to the entire country based on experience under current regulations. MMS believes that this alternative would be costly and difficult to administer based compared to the proposed rule. This alternative would also likely result in a more accurate measure of lease value than MMS' proposed alternative. It is also not clear that alternative 2 would be any more burdensome than the proposed rule and may be less burdensome. While both of these first two options represent sound measures of lease market value, we believe the limitations governing their use under the proposed rule are unduly restrictive. As a result, and as we later will discuss, this will limit their use in practice.

Alternative 3, which would rely on arm's-length prices published by MMS and based on information reported on a revised Form MMS-2014, was rejected because of concerns that an insufficient volume of arm's-length transactions from some fields would not allow MMS to compute a representative value. Additionally, this alternative would impose a large burden on MMS to publish these prices monthly.

Finally, MMS states that alternative 4 was rejected outright by industry. Under this alternative, MMS would publish differentials by zones or areas to deduct from an index price. This methodology would not result in market value at the lease for many of the same reasons MMS' chosen alternative will not result in market value at the lease.

¹⁸ "Economic Analysis of Proposed Federal Oil Royalty Valuation Rule under Executive Order 12866," Pages 9-10.

¹⁹ *Ibid.* Page 7.

²⁰ *Ibid.* Page 8.

MMS selected a spot price-based index system because this represented "an improvement to the original proposed rule."²¹ MMS believes that "[s]pot and spot-related prices drive the manner in which crude oil is bought and sold today in the United States."²² MMS made almost the same statement regarding NYMEX in its original proposed rule.²³ In an earlier report, Barents noted that "[t]here [was] no sense to MMS' belief that all oil markets are necessarily "driven" by the NYMEX market,"²⁴ and equally, there is no sense to the belief that it is driven by spot prices. While the use of spot prices may have eliminated one step in the calculation when compared to the previously proposed NYMEX-based system, the further supplementary proposed rule fails to address many of the problems associated with the original proposed rule and creates new problems that render it virtually unworkable.

Has MMS Fulfilled the Requirements?

MMS comments briefly on each alternative citing reasons the alternative would be unworkable. MMS does not, however, perform a cost-benefit analysis on any of the alternatives. Indeed, MMS only analyzes its proposed rule and does not "leav[e] a manageable number of alternatives to be evaluated according to the principles of the Executive Order."²⁵ The intent of E.O. 12866 seems to be for the agency to perform a detailed analysis of more than one alternative so that it may select the most efficient alternative. MMS simply presents a few, unsubstantiated reasons for not using its alternatives. As a result, MMS has not fulfilled the requirements specified in the memo. MMS further potentially biases available policy options by not analyzing royalty-in-kind.

MMS must analyze some reasonable alternatives to its current proposed rule. It states that the alternatives discussed were less desirable and more costly to implement than the proposed rule, and "[f]or these reasons, MMS determined that they are not feasible alternatives or effective means to achieve the same results."²⁶ Yet, MMS has not closely analyzed any of the alternatives to determine how costly they would be to implement. Further, as we discuss later, we believe that MMS has substantially underestimated the cost of implementing its further supplementary proposed rule.

More importantly, MMS has not investigated which, if any, of its alternatives would result in value at the lease. Barents has analyzed MMS' chosen alternative and believes that it will result in something other than value at the lease. Indeed, as we discuss later, MMS' own analysis indicates that its proposed rule will result in something other than value at the lease.

²¹ *Ibid.* Page 9.

²² *Ibid.*

²³ 62 FR 3746

²⁴ See "Preliminary Analysis of the Department of Interior, Minerals Management Service Proposed Rule Establishing Oil Value for Royalty Due on Federal Leases and on Sales of Federal Royalty Oil," March 25, 1997 as submitted by the Domestic Petroleum Council, the Independent Petroleum Association of America, the Independent Petroleum Association of Mountain States, the Mid-Continent Oil and Gas Association, and the Rocky Mountain Oil and Gas Association.

²⁵ "Economic Analysis of Federal Regulations Under Executive Order 12866," January 11, 1996, Page 7.

²⁶ "Economic Analysis of Proposed Federal Oil Royalty Valuation Rule under Executive Order 12866," Page 10.

ANALYSIS OF BENEFITS AND COSTS

There are several general areas that must be considered in analyzing both costs and benefits. These include.

- ◆ *Baseline.* Costs and benefits must be measured against a baseline.
- ◆ *Evaluation of alternatives.* Agencies should identify and analyze alternatives meeting the criteria of Executive Order 12866.
- ◆ *Assumptions.* Assumptions should be explicit and should be tested. When proprietary data is used, agencies must provide as much information as possible about the underlying assumptions and conclusions.
- ◆ *Nonmonetized benefits and costs.* Effects that cannot be fully monetized or otherwise quantified should be described.
- ◆ *Distributional effects and equity.* Where distributive effects are thought to be important, the effects of various regulatory alternatives should be described quantitatively to the extent possible, including their magnitude, likelihood, and incidence of effects on particular groups.

Discussion of MMS' Analysis: Costs

MMS divides its discussion of costs into MMS-incurred costs and industry-incurred costs. We believe that MMS has significantly underestimated the costs it has identified and has failed to identify many costs that would actually be incurred by lessees under the further supplementary proposed rule.

MMS-Incurred Costs

MMS believes that it will incur only minimal additional costs to administer the proposed rule. Specifically, MMS believes that it will only incur additional costs related to the collection and processing of data from proposed Form MMS-4415. Specifically, MMS estimates that it will take two GS-9 employees a total of approximately 60 hours annually to collect, sort, and file the documents associated with the information collection. Using an hourly wage of \$14.73 plus 25 percent for benefits and 10 percent for overhead and support, this results in a total cost to the government of \$2,430.45. MMS also estimates that it will take a team of four GS-12 analysts approximately 120 hours each to analyze and publish the data annually. Using an hourly wage of \$21.36 plus 25 percent for benefits and 10 percent for overhead and support, this results in a total cost of \$14,097.60. The total cost to the Federal government would be \$16,558.05.

MMS has estimated that it expects to have roughly 1,750 Forms MMS-4415 filed annually. If this estimate is correct, MMS is estimating only 2 minutes per form for its GS-9 employees to collect, sort, and file the documents. Given that MMS has not yet developed an electronic method for filing Form MMS-4415, these GS 9 employees would presumably be required to enter the data from the forms into a database of some sort so that the team of GS-12 analysts could perform their analysis. Considering the number of data elements on Form MMS-4415 and

any necessary sorting and filing, 2 minutes is a likely too short amount of time to allow for this task, and so this cost is underestimated.

More troubling though is MMS' estimate of the time it would take its team of GS-12 analysts to analyze and publish the data. At the hearing in Houston on February 15, 1998, it became apparent that MMS officials agreed that they have not carefully considered how they are going to analyze these data and what they are going to publish. In response to a question on how MMS was going to actually use these data to publish something in the Federal Register and what it would look like, Dave Hubbard, Chief of MMS' Economic Valuation Branch, responded "frankly, part of the answer to your question has to depend on the type of information we get in, the level and type of it. Until we see how much of a spread there might be in different exchanges, in terms of quality differences for the oil being traded at both ends of the exchange, you know. That's necessarily going to drive the results of our -- how many different differentials we have for different levels of quality."²⁷ Further Dave Hubbard concurred that MMS was going to "wait to see the data to figure out what [it is] going to do."²⁸ How can MMS accurately estimate the time required to analyze and publish these data if it does not know itself what it will do with the data?

Industry-Incurred Costs

MMS estimates that the only additional costs incurred by industry will be the costs associated with filing Form MMS-4415, which MMS estimates to be \$160,912.50 annually. MMS does not regard the additional royalties that it estimates industry will pay as an additional cost because it believes the additional royalties represent a reflection of the market value upon which royalties should have been based under current regulations; it does, however, count these additional royalties as a benefit.²⁹

MMS has failed to estimate a number of additional costs that industry would be forced to incur under this further supplementary proposed rule. These include:

- ◆ The time required to calculate value under rule;
- ◆ The cost of replacing or upgrading computer systems (the proposed rule may require some companies to operate three different computer systems);
- ◆ The increased recordkeeping burden; and
- ◆ The additional time required to complete other currently approved MMS forms.

MMS is correct in including the cost of completing proposed Form MMS-4415 in its estimate, although we believe has underestimated these costs. Indeed, one commenter at the hearing in Houston on February 18, estimated that "The burden of trying to implement systems to keep up with that will clearly run us in excess of a million dollars because we're going to have multiple

²⁷ Transcript of Public Hearing on Minerals Management Service's Supplementary Proposed Rule on Oil Valuation. Pages 124-25.

²⁸ *Ibid.* Page 125.

²⁹ "Economic Analysis of Proposed Federal Oil Royalty Valuation Rule under Executive Order 12866," Page 14.

systems in place.”³⁰ However, “[o]pportunity costs include, but are not limited to, private-sector compliance costs and government administrative costs. Opportunity costs also include losses in consumer’s or producer’s surpluses, discomfort and inconvenience, and loss of time. These effects should be incorporated into the analysis and given a monetary value where possible.”³¹ MMS has not included all necessary costs.

Has MMS Fulfilled the Requirements?

MMS has only considered some of direct costs of the further supplementary proposed rule, while as described above, a good economic analysis should consider distributional effects and market distortions. As the Katzen memo notes, “[w]here distributive effects are thought to be important, the effects of various regulatory alternatives should be described quantitatively to the extent possible, including their magnitude, likelihood, and incidence of effects on particular groups.”³² MMS has not considered the costs of market distortions or distributional impacts that would result from this rule. Barents Group commented on these broader costs in earlier reports, yet MMS has not responded to those comments.

Specifically, in our March 1997 report, we note that “[i]n addition to the problems discussed above with calculating meaningful averages, the averaging methodology will have distributional implications that MMS apparently has not fully considered.”³³ While the discussion in that report specifically referred to the use of NYMEX as an index, the argument applies equally to the use of any index price. While the individual prices for all arm’s-length transactions could be averaged to characterize a market price, this is not the same as saying that the average of these transactions provides a true market price for an individual transaction. Individual producers disposing of crude oil in a series of transactions, especially producers with fewer transactions over a year and fewer types of crude oil, may not be made whole through averaging. MMS ignores these distributional consequences under the apparent assumption that a single average market value concept is an adequate substitute for the range of market valuations that are established in the marketplace.³⁴

Additionally, the costly filing requirements associated with Form MMS-4415 could cause lessees to restructure their transactions so as to avoid triggering a filing requirement. Lessees have chosen to structure their transactions as they have to best meet market demand; restructuring to avoid having to file Forms MMS-4415 will represent a second best option and not the most efficient free market outcome.

Finally, MMS is trying to capture the value of something other than the value of crude oil at the lease. By disallowing deductions for marketing costs under a “duty to market” theory and pipeline costs using FERC-approved tariff rates, the proposed rule imposes the economic equivalent of a new tax when computing non-arm’s-length value. The following example

³⁰ Transcript of Public Hearing on Minerals Management Service’s Supplementary Proposed Rule on Oil Valuation. Page 63.

³¹ “Economic Analysis of Federal Regulations Under Executive Order 12866.” January 11, 1996. Page 23.

³² *Ibid.* Page 17.

³³ “Preliminary Analysis of the Department of Interior, Minerals Management Service Proposed Rule Establishing Oil Value for Royalty Due on Federal Leases and on Sales of Federal Royalty Oil,” March 25, 1997, Page 27.

³⁴ *Ibid.* Page 28.

compares royalty payments under the proposed rule for transactions that are identical, except that one is defined under the rule as non-arm's-length for a lessee that runs crude through its own pipeline and refinery, while the other is for crude produced by an independent lessee with a working interest in the same lease. Under this example, the independent lessee sells its production outright at the lease to a middle marketer, which later disposes of the production at the refinery owned by the integrated lessee.

Table 1
Comparison of Outright Sale to Non-Arm's-Length Value under Proposed Rule

| | Outright purchase market value (\$/barrel) | Non-arm's-length computed value (\$/barrel) |
|--|--|---|
| Lease value (computed for non-arm's-length value) | 15.00 | 15.40 |
| Transportation (arm's-length tariff for purchase and "actual cost" for non-arm's-length value) | 0.50 | 0.25 |
| Marketing cost and profit | 0.15 | |
| Sales proceeds at refinery | 15.65 | 15.65 |
| Net uplift | 0.15 | |
| Stated royalty rate | 16.7% | 16.7% |
| Royalty payment | 2.50 | 2.57 |
| Excessive royalty | | 0.07 |
| Excessive royalty as a percent of gross uplift | | 46.7% |

The "tax" is equal to an MMS-manufactured tax base, multiplied by a tax rate. Here, the tax rate is equal to the royalty – 16.7 percent. The tax base is the excess of the MMS mandated value over the fair market of the production sold outright at the lease.

The first source of manufactured tax base is that MMS requires the integrated lessee to use its "actual cost" for transportation rather than the stated tariff. Under MMS regulations, actual cost will generally be substantially lower than the FERC-approved tariff due to artificial constraints on the owner's return on capital. The FERC-approved tariff, on the other hand, allows a return that more closely approximates competitive returns in a normal commercial market. In this example, the FERC-approved tariff is assumed to equal \$0.50 per barrel, while the MMS-approved actual cost is \$0.25 per barrel.

The second source of manufactured tax base is \$0.15 of marketing cost and profit. This is computed as simply the difference between the gross proceeds received by the middle marketer and the sum of the cost of purchase at the lease and transportation. By not allowing a deduction for marketing costs incurred in the non-arm's length transaction (\$0.15 in this example), MMS effectively increases the tax base.

The tax is equal to the 16.7-percent royalty rate multiplied by the \$0.40 of manufactured base, or \$0.25 of understated transportation cost and \$0.15 of disallowed marketing cost. The net overstatement is \$0.07, or 46.7 percent of the \$0.15 net uplift.

Quite apart from its negative economic effects, MMS has no statutory authority to impose a tax. While MMS has limited authority to impose fees, this tax also cannot be equated to a user fee, because it has no relationship to any costs borne by the agency.

MMS has not fulfilled all requirements of a complete cost analysis and must fully consider all direct and indirect costs of this proposed rule before proceeding. MMS' current estimate grossly underestimates the costs that would be imposed by this rule. While these effects may not be easy to quantify, they should, at a minimum, be discussed qualitatively.

Discussion of MMS' Analysis: Benefits

MMS has divided its discussion of benefits into quantifiable and nonquantifiable benefits. We first discuss MMS' quantifiable benefits, followed by the nonquantifiable benefits.

Quantifiable Benefits

MMS has estimated that the further supplementary proposed rule will raise \$66.1 million in additional revenues. MMS divided the analysis of quantifiable benefits into sections consistent with the three geographic regions of the proposed rule: California (both onshore and offshore), offshore Gulf of Mexico (also includes onshore New Mexico, Texas, and Louisiana), and the Rocky Mountain Area. MMS has excluded certain states from its analysis, which would present particular challenges under the further supplementary proposed rule, e.g., Michigan.

For each region, MMS compared royalties paid in 1996 for oil and condensate to what MMS believes would be required under the proposed valuation requirements. MMS chose 1996 for the following reasons:

- ◆ 1996 is the last complete year for data were available for all months;
- ◆ 1996 represents a typical production year with no major market interruptions; and
- ◆ The 1996 data incorporate most of the edits and corrections preformed by the exception processing modules in MMS' Auditing and Financial System/Production Accounting and Auditing System. The 1996 data are unaudited.

The results of this analysis, however, are very sensitive to the choice of the baseline year. In 1996, for example, the average price for a barrel of crude oil from Federal lands was \$18.37.³⁵ Recently though, oil prices have been as low as \$13 per barrel. At lower prices, all the relative differences become smaller.

MMS grouped the royalty reporters into five separate categories:

1. Major integrated producers with refinery capacity;
2. Large, independent producers/marketers with refinery capacity;

³⁵ Calculated using Information from *Mineral Revenues 1996: Report on Receipts from Federal and Indian Leases*. Minerals Management Service. U.S. Department of Interior. Page 18.

3. Large, independent producers/marketers with no refinery capacity;
4. Small, independent producers with refinery capacity; and
5. Small, independent producers with no refinery capacity.

In performing its analysis, MMS assumes that producers/marketers with no refining capacity would continue to pay on gross proceeds, and so there would be no change in royalty payments from categories 3 or 5. MMS assumes that producers/marketers with refining capacity will not dispose of any production at arm's-length and so will value all crude oil using an index methodology or, in the Rocky Mountain Area, one of the four non-arm's-length benchmarks.

First, it is not clear that producers without refineries dispose of all their production in arm's-length transactions at the lease. Historically, independent oil and gas producers sold their production at the lease, but this is not necessarily the case any longer. As Tom White of Walter Oil and Gas Corporation discussed at the Houston hearing on February 18:

*[W]e not only market our affiliate's production, our producing affiliate's production; we also purchase and resell a greater volume of third party oil in the Gulf of Mexico from other producers primarily independents but in some cases, larger companies, but the larger volumes are from independents...*³⁶

Clearly, Walter Oil and Gas Corporation is involved in activities other than selling production at the lease. As such, the gross proceeds method, as currently proposed, will result in a value for royalty purposes in excess of market value at the lease. This excess results from the implied duty to market under the further supplementary proposed rule and the fact that marketing costs are not an allowable deduction. MMS has failed to consider this in calculating the impact of this proposed rule.

Second, it is not the case that producers/marketers with refineries will not dispose of any production at arm's-length and so will value all crude oil using a non-arm's-length methodology. Producers with refineries engage in many different types of transactions; they may sell some production at arm's-length, exchange some at arm's-length, or transfer production in a non-arm's-length transaction. Having a refinery does not preclude a producer/market from engaging in arm's-length transactions. MMS, however, has assumed that all production from producers/marketers with refineries will be valued using a non-arm's-length methodology. This is clearly inaccurate. For example, Texaco and Conoco filed comments with MMS describing their arm's-length tendering programs.

MMS used proprietary data in performing its calculations, and the Katzen memo urges caution when using such data. It states:

Special challenges arise in evaluating the results of an EA that relies strongly upon proprietary data or analyses whose disclosure is limited by confidentiality agreements. When such material is used, it is essential that agencies provide as much information as possible concerning the underlying scientific, technological,

³⁶ Transcript of Public Hearing on Minerals Management Service's Supplementary Proposed Rule on Oil Valuation. Pages 70-72.

behavioral, and valuation assumptions and conclusions. This can be accomplished, for example, by providing information about the values of key input parameters used in a modeling analysis or the implied behavioral response rates derived from sensitivity analysis.³⁷

In its 12866 analysis, MMS does not present any sensitivity analysis. While, MMS generally describes the assumptions it made in performing this analysis, it generally does not describe why it made certain assumptions and does not present the data underlying those assumptions. Specific assumptions will be discussed on a region by region basis, but we should note that the Katzen memo states that:

Analysis of the risks, benefits, and costs associated with regulation must be guided by the principles of full disclosure and transparency. Data, models, inferences, and assumptions should be identified and evaluated explicitly, together with adequate justifications of choices made, and assessments of the effects of these choices on the analysis.³⁸

Generally, MMS' spreadsheet models obtained through a FOIA request, are not immediately intuitive and easy to follow or well documented. In many cases, several steps have been aggregated into one, and as a result, it is difficult to determine how and why MMS proceeded as it did. Further, in some cases what MMS describes as its methodology is inconsistent with what the spreadsheets present.

Additionally, disclosure was a problem with the spreadsheets used in the onshore analysis. Because of the aggregation necessary to prevent disclosure of proprietary information, it is difficult to evaluate MMS' analysis of these onshore areas.

Offshore California

To estimate the impact of the proposed rule on royalty collections for offshore California, MMS used the following procedures:

- ◆ Grouped all production by unit, determined a weighted average gravity for each unit;
- ◆ Made gravity adjustments to equate unit production to the 27° API ANS production, using Chevron's California posted price gravity adjustment scale in effect during the production month;
- ◆ Subtracted a location differential from the ANS value in Los Angeles to arrive at a value at the lease; and
- ◆ Subtracted sulfur penalties, based on All-American Pipeline sulfur bank adjustments, from the ANS price where appropriate.

³⁷ "Economic Analysis of Federal Regulations Under Executive Order 12866." January 11, 1996. Pages 18-19.

³⁸ *Ibid.* Page 4.

MMS then compared this calculated price to the actual price reported on Form MMS-2014 less any transportation reported. The overall difference is the estimated impact of the proposed rule. For offshore California, the estimated revenue gain is as follows:

| | |
|-----------------------------|-----------------|
| ♦ Category 1: | \$11,800,300.80 |
| ♦ Category 2: | 508,119.28 |
| ♦ Category 4: | 296,146.73 |
| ♦ Total offshore California | \$12,577,566.81 |

For offshore California, as for other areas of the country, MMS assumes that only producers with refinery capacity would be affected by the proposed rule. That is, only categories 1, 2, and 4 would be affected. MMS believes that categories 3 and 5 would continue to pay on gross proceeds and thus be unaffected by the rule. As discussed elsewhere in this report, we do not believe this assumption to be valid.

As shown in the following table, refiners in offshore California account for \$12.6 million of MMS' \$66.1 million estimate. What MMS does not show in its analysis is the results that would be obtained for producers without refinery capacity. As Table 2 shows, producers without refinery capacity would pay an additional 17.8 percent in royalties under an index methodology. Producers with refinery capacity would pay an additional 10.4 percent in royalties, yet MMS believes that the gross proceeds received by the offshore California producers without refinery capacity represent a fair market value at the lease, while the higher average price received by those with refineries does not.

TABLE 2
MMS' ANALYSIS FOR OFFSHORE CALIFORNIA

| Category | Royalty Quantity (barrels) | Royalty Value (barrels) | Unit Value (\$/b) | New Value (\$/b) | New Royalty Value (dollars) | Difference (dollars) | % Change in Value |
|-----------|----------------------------------|-------------------------------|-------------------------|------------------------|-----------------------------------|-------------------------|-------------------------|
| 1 | 8,216,306 | 115,449,664 | \$14.05 | \$15.49 | 127,249,965 | 11,800,301 | 10.2% |
| 2 | 275,901 | 3,539,329 | \$12.83 | \$14.67 | 4,047,449 | 508,119 | 14.4% |
| 3 | 220,721 | 2,851,703 | \$12.92 | \$14.67 | 3,237,959 | 386,256 | 13.5% |
| 4 | 118,383 | 1,475,848 | \$12.47 | \$14.74 | 1,744,995 | 269,147 | 18.2% |
| 5 | 1,892,111 | 26,255,327 | \$13.88 | \$16.42 | 31,063,078 | 4,807,751 | 18.3% |
| Total | 10,723,422 | 149,571,871 | \$13.95 | \$15.61 | 167,343,444 | 17,771,573 | 11.9% |
| 1, 2, & 4 | 8,610,591 | 120,464,841 | \$13.99 | \$15.45 | 133,042,408 | 12,577,567 | 10.4% |
| 3 & 5 | 2,112,832 | 29,107,030 | \$13.78 | \$16.23 | 34,301,036 | 5,194,006 | 17.8% |
| Total | 10,723,422 | 149,571,871 | \$13.95 | \$15.61 | 167,343,444 | 17,771,573 | 11.9% |

Source: MMS Spreadsheets and Barents Group Calculations

MMS chose not to show or mention these results in its E.O. 12866 analysis. Indeed, MMS' assertion that an average price per barrel of \$13.78 for producers without refinery capacity (categories 3 and 5) represents fair market value must be questioned, when MMS does not

believe that \$13.99 per barrel for producers with refinery capacity is a fair market value and must be valued using an index methodology. In the Rocky Mountain Area, MMS used the values from royalty reports by independent producers with no refinery capacity as a "reasonable proxy for unit value," yet for offshore California, MMS is questioning a unit value for producers with refinery capacity which is higher than the unit value for producers without. The logic behind this assumption is not at all clear, although we do agree that under the proposed rule, these independent producers would generally pay royalties on gross proceeds.

Additionally, MMS specifically states that that it compared the actual price reported for each royalty reported less any transportation allowances reported on Form MMS-2014, yet the spreadsheets obtained through a FOIA request do not indicate that this is what MMS has done. MMS presents the transportation costs in the offshore California spreadsheets, but these data do not appear to be used anywhere. Thus, MMS appears to be performing its analysis on actual values inclusive of transportation costs. This not netting out transportation cost, however, is not consistent with what MMS states it has done and the actual methodology used for the Gulf of Mexico.

It is also unclear why MMS includes actual gravities in its spreadsheet for offshore California and, rather than using those actual gravities, calculates weighted average gravities for a unit and uses those average in its analysis. The Chevron posted price gravity adjustment scale contains, in some months, gravity adjustments for production with gravity between 34° and 40° API that differ from that for production with gravity below 34°. A close examination of how MMS calculated its gravity adjustments reveals that MMS did not take this into account. MMS also made mistakes in calculating the price adjustment per degree in several months.

Instead of accepting the higher average unit value received by producers with refinery capacity, MMS has chosen to base its proposed royalty valuation scheme on a complex net back procedure beginning with an ANS spot price for production in California and Alaska less various adjustments. The intent is to arrive at a value at the lease. Allowing for transportation, gravity, and sulfur adjustments will not allow the lessee to net back from an ANS spot price to a value at the lease but rather will include some portion of value added downstream of the lease. Additionally, these adjustments do not consider other differences between California production and ANS crude. Differences in yields, metals contents, and other physical characteristics can result in significant value differences between ANS and otherwise similar California crude.

Onshore California

For onshore California production, MMS arrived at its estimate of a monthly price at the lease by taking the ANS spot price less a gravity deduction from ANS at 27° to Midway-Sunset at 13° API, less a \$0.75 transportation charge from the Midway-Sunset field to Los Angeles. The gravity deduction was based on Chevron's posted prices and ranged from \$0.10 to \$0.25 per degree for a total deduction ranging from \$1.40 to \$3.50 per month. The \$0.75 transportation deduction was the average tariff rate for the Four Corners Pipeline.

Midway-Sunset represents 80 percent of all Federal onshore California production, and an additional 10 percent of the Federal onshore California production is from the same general area

and is a similar quality crude. MMS, therefore, decided that analyzing only the Midway-Sunset field would be sufficient. MMS does not indicate whether or not the results they present represent only the Midway-Sunset field or if they have been weighted in some fashion to represent all Federal onshore production in California.

MMS estimates the impact of the proposed rule in this region to be as follows:

| | |
|-----------------------------|--------------|
| ♦ Category 1: | \$536,894.69 |
| ♦ Category 2: | -13.16 |
| ♦ Category 4: | 8,651.16 |
| ♦ Total onshore California: | \$572,622.69 |

As with offshore California, MMS assumes no revenue impact for categories 3 and 5 (producers/marketers without refineries) because they assume they will remain on gross proceeds, and so will not pay any more than under current regulations.

MMS uses the average tariff rate for the Four Corners Pipeline as an estimate of the transportation charge from Midway-Sunset to Los Angeles area refineries, yet the proposed rule disallows the use of tariffs for transportation in an affiliated pipeline.

Additionally, MMS mentions that there are large gravity adjustments over the year and so the adjustments MMS used varied over time. Lessees, however, required to use MMS-published differentials, will use differentials set once per year and up to one year out of date. This clearly will not result in an accurate valuation as gravity adjustments vary more frequently than annually. This will cause lessees to either under- or over-value their production. Further, MMS may have made the same mistakes with the gravity adjustments for onshore California as for offshore.

Disclosure issues make an in-depth analysis of what MMS did with onshore California difficult. Unlike the offshore areas, because MMS was only able to provide us with data that was aggregated by month into six categories, and in some cases was not even able to show each of those categories, it has not been possible to verify MMS' methodology.

Offshore Gulf of Mexico

As MMS notes in its economic analysis, the proposed rule would require the value of oil not sold at arm's length to be based on the average of the daily mean spot price (1) for the market center nearest the lease where spot prices are published in an MMS-approved publication; (2) for the crude oil most similar in quality to the lessee's oil, and (3) for deliveries during the production month. The lessee would then adjust the value for applicable location and quality differentials and may adjust it for transportation.

According to MMS, There are three spot prices published for Gulf of Mexico oil: Eugene Island, at 35° API and 0.84 percent sulfur; Heavy Louisiana Sweet at 32° API and 0.3 percent sulfur; and Light Louisiana Sweet at 37.5° API and 0.3 percent sulfur.

As with California, MMS assumed that all producers/marketers with no refining capacity would continue to value oil under gross proceeds, and so MMS excluded them from the analysis. MMS outlined the procedures they used:

- ◆ It categorized the production by area;
- ◆ It assigned each area the spot price that most accurately represented the oil from that field;
- ◆ It calculated weighted average gravities for each area;
- ◆ It made gravity adjustments to the spot price using Shell Oil Company's offshore oil posted price adjustment scale in effect at the time of production;
- ◆ It deducted location differentials from the spot price for the actual movement of the oil from its first onshore location to the spot market. This value was based on the FERC tariffs in effect for transport from major onshore gathering points to the spot market centers.
- ◆ It then compared the location and quality-adjusted spot price to the value reported on the Form MMS-2014 for each month in 1996. Any difference was then multiplied by the royalty quantity for each lease and aggregated.

MMS estimates the impact of the proposed rule in this region to be as follows:

| | |
|------------------------|-----------------|
| ◆ Category 1: | \$43,517,498.99 |
| ◆ Category 2: | 4,750,376.13 |
| ◆ Category 4: | 1,341,782.66 |
| ◆ Total Offshore Gulf: | 49,609,779.78 |

We have numerous concerns over the underlying premises on which the analysis is based and a more detailed review of the analysis serves to illustrate some of the reasons. Three-quarters, or \$49.6 million, of MMS' \$66.1 million estimated impact of the proposed rule, is attributable to Gulf of Mexico production. For this reason, we have attempted to dissect MMS' underlying spreadsheets. The following table summarizes MMS' data for Gulf of Mexico production in more detail than MMS published. In presenting its results, MMS assumed that only refiners with their own production would be affected by the proposed rule. That is, the only affected producers would be categories 1, 2 and 4, or major integrated producers, large independent producers with refineries, and small independent producers with refineries.

We do not believe this assumption is valid, particularly for major integrated producers, at least two of which have had publicly-announced tendering programs in place for some time and others routinely making substantial arm's length sales. Further, some independent producers are subject to noncompetitive crude oil calls.

As shown below, this \$49.6 million estimate is a 5.9 percent increase in the reported value. What MMS does not show in its analysis is that when the same methodology that produces the \$49.6 million estimate is applied to producers with no refinery capacity, they would also show a substantial increase in valuation. Categories 3 and 5, which are large independent

producers/marketers without refinery capacity and small independent producers without refinery capacity, show \$11.6 million of additional value, or 3.5 percent above the amount originally reported.

TABLE 3
MMS' ANALYSIS FOR OFFSHORE GULF OF MEXICO

| Category | Royalty Quantity (barrels) | Royalty (dollars) | Value | Unit Value (\$/b) | New Value (\$/b) | New Royalty Value (dollars) | Difference (dollars) | % change in value |
|----------|----------------------------------|----------------------|-------|-------------------------|------------------------|--------------------------------|-------------------------|----------------------|
| 1 | 36,725,268 | 747,147,902 | 20.34 | 21.53 | 790,665,401 | 43,517,499 | 5.8% | |
| 2 | 3,082,501 | 61,903,824 | 20.08 | 21.62 | 66,654,200 | 4,750,376 | 7.7% | |
| 3 | 1,617,510 | 33,495,993 | 20.71 | 21.68 | 35,065,991 | 1,569,997 | 4.7% | |
| 4 | 1,583,503 | 32,836,131 | 20.74 | 21.58 | 34,177,913 | 1,341,783 | 4.1% | |
| 5 | 14,264,210 | 300,384,753 | 21.06 | 21.77 | 310,508,834 | 10,124,081 | 3.4% | |
| Total | 57,272,993 | 1,175,768,603 | 20.53 | 21.60 | 1,237,072,339 | 61,303,736 | 5.2% | |
| 1,2 & 4 | 41,391,272 | 841,887,857 | 20.34 | 21.54 | 891,497,514 | 49,609,658 | 5.9% | |
| 3 & 5 | 15,881,720 | 333,880,747 | 21.02 | 21.76 | 345,574,825 | 11,694,078 | 3.5% | |
| Total | 57,272,993 | 1,175,768,603 | 20.53 | 21.60 | 1,237,072,339 | 61,303,736 | 5.2% | |

Source: MMS Spreadsheets and Barents Group Calculations

Leaving aside the question of why MMS chose not to show these inconvenient results for independent producers, it is clear that royalty reports by independent producers without refinery capacity are at least one reasonable measure of market value. That is, MMS chose to base both its economic analysis and the proposed rule on the construction of a complicated net back procedure that begins with a spot market price some distance from the lease where large volumes have already been aggregated, and then backs off a quality adjustment, and a transportation adjustment just to the shoreline. In the published report, MMS states that this may overstate the revenue impact, but does not report any alternative measures. It is misleading to the reader to not estimate the potential error through transportation cost information readily available.

MMS also estimates the revenue impact of the proposed rule without recognizing the impact of audit adjustments, other than to simply note that they are not included. MMS has already estimated the impact of audit adjustments in its report on the 1995 Gulf of Mexico gas royalty-in-kind study. The report illustrated that over the last decade, MMS has on average experiences a 3 percent increase in collections as a result of audit experience. Which the record varies from year to year, this 3-percent average appears to be reasonable. This alone would imply that the \$66 million estimate is overstated by 71 percent.³⁹

³⁹ The total value reported for Gulf of Mexico production by producers with refinery capacity in 1996 was \$1,175.8 million. Three percent of this amount is \$35.3 million. If MMS is already expected to achieve this amount without adoption of the proposed rule, then only \$14.3 million will actually represent an increase (the excess over the \$49.6 million MMS estimates). This means that MMS overestimated the revenue potential of the proposed rule in the Gulf of Mexico by 71 percent.

Onshore New Mexico

MMS arrived at a monthly price at the lease by taking the spot price for West Texas Intermediate at Midland, Texas less a \$0.19 charge for transportation and quality from the lease to the aggregation point and a \$0.25 charge from the aggregation point to Midland. MMS states that these values came from both the actual per barrel rates charged by pipelines in the area and additional allowances related to transportation and quality.

Following the same assumptions for producers with no refinery capacity, MMS estimates that the 1996 revenue gains under the further supplementary proposed rule would be:

| | |
|-----------------------------|--------------|
| ◆ Category 1: | \$305,449.75 |
| ◆ Category 2: | 331,159.89 |
| ◆ Category 4: | 138,682.17 |
| ◆ Total onshore New Mexico: | \$775,291.81 |

The \$0.19 charge for transportation and quality from the lease to the aggregation point is the straight average of FERC tariffs for the Texas New Mexico Pipeline Company from points in New Mexico and Texas to Jal, Lea County New Mexico; Wink, Winkler County, Texas; Halley, Winkler County, Texas, Mesa Station, Upton County, Texas; and McCamey, Upton County, Texas. It is not clear, however, how MMS derived the \$0.25 charge from the aggregation point to Midland, Texas.

Rocky Mountain Area

Under the further supplementary proposed rule, crude oil would be valued differently in the Rocky Mountain Area than in any other region of the country. In the Rocky Mountain Area, lessees must value crude oil not sold at arm's length under the first applicable of a series of four benchmarks:

1. An MMS-approved tendering program,
2. The volume weighted average gross proceeds of a lessee's or its affiliate's arm's-length sales and purchases,
3. NYMEX less applicable allowances and adjustments, or
4. An MMS-approved alternative.

Estimated revenue gains for 1996 for the Rocky Mountain Area are as follows:

| | |
|--------------------------|----------------|
| ◆ Category 1: | \$1,958,450.90 |
| ◆ Category 2: | 248,640.10 |
| ◆ Category 4: | 381,596.97 |
| ◆ Total Rocky Mtn. Area: | \$2,588,687.97 |

MMS determined that it could not compute monthly values by State for this region because of lack of information. MMS found it difficult to determine what unit value a tendering program

would yield or how much production would, in fact, be offered for sale. MMS also found it difficult to determine the volume-weighted average price of lessee's arm's-length sale from a field or area and whether those transactions would meet the 50-percent threshold as MMS was unable to determine what sales or purchases were at arm's length. Finally, MMS "could not determine a location/quality differential from Cushing, Oklahoma, to the fields/areas of each State due to lack of such transaction information."⁴⁰

MMS says it could not calculate a location/quality differential between Cushing and the Rocky Mountain Area. If MMS was not able to calculate this differential, one might ask how the Agency expects lessees to be able to determine it? We must assume that MMS is expecting to gather this information on proposed Form MMS-4415, yet as we have discussed in previous reports, there will be serious questions of accuracy and statistical validity with the information to be collected.⁴¹ Additionally, MMS has been requesting comments on whether it could eliminate Form MMS-4415 entirely. If it were to do this, how would MMS propose to provide a quality/location differential for those lessees who required such a differential?

Because of the difficulties it encountered in this region, MMS decided that a "conservative yet reasonable proxy"⁴² for a fair market price that approximated arm's-length sales would be to use the weighted average unit price per barrel for the large and small independent producers with no refining capacity. By stating that this is a conservative proxy, MMS is implying that the proposed methodology could well result in a higher price than producers without refinery capacity are receiving for arm's-length sales. This approach approximates comparable market values *at the lease* based on arm's-length transactions, which is a valid approach. In all of MMS' E.O. 12866 analysis, this is the approach that will likely allow MMS to best approximate a value at the lease, MMS' stated intent with this rule.

While this is generally an appropriate approach, MMS assumptions must be examined. MMS was unable to split the oil volumes into sweet and sour crude, and so it assumed that each of the five categories of lessees produced comparable volumes of sweet and sour crudes. Additionally, as MMS had used prices that had already been adjusted for quality, it did not make any further adjustments. Such assumptions could significantly affect the results of the analysis. For example, if a particular group of lessees produce a disproportionate amount of sour crude, this methodology would result in their production being overvalued. Similarly, if a particular lessees produced a disproportionately amount of sweet crude, their crude would be undervalued using this methodology. Additionally, just because MMS used a weighted average price in performing its calculations, there is no reason to believe that on net that produces the right answer.

⁴⁰ *Ibid.* Page 23.

⁴¹ See "Analysis of The Department of Interior, Minerals Management Service's Form MMS-4415 Under the Supplementary Proposed Rule Establishing Oil Value for Royalty Due on Federal Leases Under the Paperwork Reduction Act," March 10, 1998 as submitted by Gardere & Wynne, L.L.P. on behalf of a number of oil and gas companies.

⁴² "Economic Analysis of Proposed Federal Oil Royalty Valuation Rule under Executive Order 12866," Page 23.

Nonquantifiable Benefits

In addition to the quantifiable benefits outlined above, MMS also believes that certain nonquantifiable benefits will accrue under this proposed rule. MMS believes that both it and industry will:

realize administrative savings because of reduced complexity in royalty determination and payment. Specifically, the proposed rule would result in:

- ♦ *Simplification of pricing, coupled with certainty,*
- ♦ *Reductions in valuation determinations and litigation,*
- ♦ *Reduction in industry compliance costs, and*
- ♦ *Receipt of market value of oil produced from Federal leases.⁴³*

If this proposed rule will result in administrative savings to the Federal government, why has MMS not attempted to quantify those savings? MMS has substantial budget data on its own costs, and so one would assume it would be a routine exercise for MMS to develop an estimate of these administrative savings. Indeed, MMS is estimating an increase in government costs to process the data from Form MMS-4415 rather than estimating a cost savings for administering the program.

Our analysis leads us to believe that the supplementary proposed rule will not achieve the benefits that MMS expects. Instead, the proposed rule will unnecessarily complicate the royalty process, will increase the volume of valuation determinations and litigation, will increase industry compliance costs, and will not result in the Federal government receiving market value at the lease.

Appendix 2 contains a decision tree representation of the proposed valuation rule. A review of this chart shows that this rule is anything but simple, and because of the number of subjective decision points, this proposed rule cannot possibly result in certainty. The requirement that lessees trace their production from the point of ultimate sale back to the lease increases uncertainty rather than reducing it. The subjective decisions required make it unlikely that this proposal will reduce either valuation determinations or litigation. Certain exceptions provided in the proposed rule will likely only be identified during audit – particularly given that MMS will only provide non-binding determinations.

The proposed rule will not result in reduced industry compliance costs. As we discuss above, there are substantial costs associated with this rule that MMS has neither acknowledged or considered. These include:

- ♦ The time required to calculate value under rule;
- ♦ The cost of replacing or upgrading computer systems (the proposed rule may require some companies to operate three different computer systems);

⁴³ "Economic Analysis of Proposed Federal Oil Royalty Valuation Rule under Executive Order 12866," Page 24.

- ◆ The increased recordkeeping burden; and
- ◆ The additional time required to complete other currently approved MMS forms.

Finally, MMS believes that this rule will result in the U.S. government receiving the market value of crude oil. The stated intent of this rule is to ensure that the government receives the market value of crude oil *at the lease*. This rule will not accomplish that objective. As we and others have discussed in previous comments, this methodology will result in the government receiving some portion of the value added after the crude oil leaves the lease at no cost to itself.

Has MMS Fulfilled the Requirements?

While MMS has provided an economic analysis of the further supplementary proposed rule, MMS has failed to adequately fulfil the requirements laid out in the Katzen memo. As discussed above, we have many questions regarding MMS assumptions. It is not always clear why MMS made certain assumptions and what the source was of those assumptions. Additionally, MMS performed no sensitivity analyses to test those assumptions. Finally, because MMS' analysis relied almost exclusively on proprietary data for onshore production, disclosure issues made it difficult, if not impossible, to verify MMS results.

Further, MMS has not fully evaluated other alternatives. MMS presents some discussion of why it believes other alternatives to be inappropriate, but it has not attempted to quantitatively analyze the benefits or costs of any of those alternatives.

MMS presents several nonquantifiable benefits, yet we believe that MMS is incorrect in its belief that this further supplementary proposed rule will achieve those benefits. MMS does not present any nonmonetized costs. Further, there are many categories of cost that MMS has neither acknowledged nor attempted to estimate.

3. CONCLUSION

In performing this study, MMS has raised issues that deserve further consideration and analysis. While our report discusses certain methodological concerns with the accuracy of MMS' analysis, we consider the report to be especially important in that the underlying data MMS used to support the analysis effectively calls into question some fundamental underpinnings of the proposed rule.

By using index prices in the proposed rule, MMS starts by capturing the value of crude oil in the wrong market. MMS believes that spot prices are a viable indicator of market value. This assumption, by itself, is not necessarily incorrect. Spot prices, however, indicate the value of crude oil downstream of the lease, rather than market value at the lease. Because these are separate markets, no uniform national or even regional series of adjustments can be used to adjust a spot market price to accurately represent market value at the lease.

Further, MMS' stated intent is to receive market value at the lease,⁴⁴ yet its own data and analysis indicate that the proposed index-pricing methodology will not result in market value at the lease. If the proposed methodology were to be applied to producers with no refinery capacity, a group that is presumably receiving arm's-length market values today, MMS' data show there would be a substantial overstatement of values over the reported values. Independent producers/marketers⁴⁵ operating in the Gulf of Mexico and offshore California, the two areas where MMS data allow us to perform such calculations,⁴⁶ show the proposed rule results in overstatements of \$0.74 per barrel and \$2.45 per barrel, respectively. These are the same companies that MMS assumes will be paying royalties based on gross proceeds under the further supplementary proposed rule. If the index-pricing method accurately captured lease value, the calculated values would instead closely approximate values reported by producers without refinery capacity.

Data MMS provided under our FOIA request for the Gulf of Mexico and offshore California show that the proposed rule would result in values much higher than market prices (MMS did not provide sufficient onshore data due to disclosure requirements). Combined, these two areas represent \$62.2 million, or 94 percent, of MMS' estimated \$66.1 million of increased royalties. Assuming that the value received by producers/marketers with no refinery capacity is a reasonable proxy for lease market value, our analysis shows that rather than a \$62.2 million increase, the application of the proposed rule would overstate market values by \$36.0 million, or by \$14.4 million for offshore California and by \$21.6 million for the Gulf of Mexico.

Further, MMS has not fully analyzed the proposed alternatives (e.g., tendering programs) and has failed to even consider a proposal with broad industry support that is currently being

⁴⁴ Transcript of Public Hearing on Minerals Management Service's Supplementary Proposed Rule on Oil Valuation. Page 8.

⁴⁵ These companies include MMS' categories 3 and 5: large independent producers / marketers with no refinery capacity, and small independent producers with no refinery capacity.

⁴⁶ Under a Freedom of Information Act (FOIA) request, Barents received data and spreadsheets MMS used in performing their economic analysis of the proposed rule.

considered by the Congress. royalty-in-kind. Additionally, MMS underestimates industry costs by assuming that the only costs incurred are those associated with filing Form MMS-4415, and MMS has likely underestimated even those costs.

As a result of these failings, the proposed rule effectively imposes the economic equivalent of a new tax with random effects that arbitrarily impose a higher burden on some Federal lessees than others. In the long run, this "tax" will reduce lessee investment and potentially Federal revenues, including future bonus payments on newly offered Federal property.

In conclusion, MMS should reevaluate the proposed rule and develop a methodology that is based on market value at the lease. MMS should fully investigate the costs and benefits of all appropriate alternatives, including royalty-in-kind.